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ABSTRACT

In this report of the Council's fourteenth year, a sum of $1,722,375 was appropriated for the support of 29 new projects and work was continued or completed on a good many more. It has become increasingly evident that the average library will never be able to "go it alone" in some aspects of the new technology--automation, for example. The level of investment required to reap the benefits of the emerging national machine-readable data bases exemplified by MARC is far beyond the individual budgeting capacity of any but the very largest libraries. Agreement is growing that the only possible solution to the dilemma - especially for the medium-sized and small libraries - is for them to band together in local, state or regional consortia and thus pool their assets and efforts. This type of consortia is so expensive and complex as to preclude its development everywhere at once. The Council and other funding agencies should select the most promising of each of several types of development for a concentration of support. In this way uneconomical dispersion of limited available resources will be avoided. (Author/MF)

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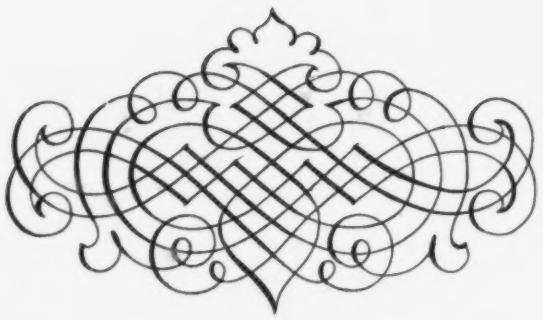
14th ANNUAL REPORT

For the period ending
June 30, 1970



COUNCIL ON LIBRARY RESOURCES, INC.
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CONTENTS

	Page
The Council on Library Resources, Inc. 1969-70	
Members of the Council and of the Board of Directors	4
Establishment, Scope, and Purpose	7
Introduction	9
The Council's Program, 1969-70	
I Library Administration and Management	11
II Model Libraries	14
III Assisting the Development of a National Library System	17
IV Developing Technology for Libraries	26
V Library Services and Resources	34
VI International Library Affairs	41
VII The Profession	43
Financial Statements	46
Acknowledgements	55

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[1] Dr. Baker and Dr. Brooks were elected Members of the Council on April 4, 1970.

[2] Until his death, April 4, 1970.

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[3] Mr. Vosper succeeded Dr. Haskins, November 22, 1969.

[4] Until September 12, 1969.

[5] Acting Treasurer from September 12, to November 22, 1969; Treasurer from November 22, 1969 to May 8, 1970.

[6] Effective May 11, 1970.

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COUNCIL ON
LIBRARY RESOURCES, INC.

The Council on Library Resources, Inc., is an independent non-profit body incorporated in the District of Columbia with the principal objective of aiding in the solution of library problems. The Council, whose Members also constitute its Board of Directors, maintains its offices in Washington, D. C.

The Council was established in 1956 at the instance of the Ford Foundation with a grant of five million dollars, to be expended over a five-year period, "for the purpose of aiding in the solution of problems of libraries generally and of research libraries in particular, conducting research in, developing and demonstrating new techniques and methods, and disseminating through any means the results thereof, and for making grants to other institutions and persons for such purposes; and for providing leadership in and wherever appropriate, coordination of efforts (1) to develop the resources and services of libraries and (2) to improve relations between American and foreign libraries and archives."

In 1960 and again in 1967 the Ford Foundation approved new grants totalling thirteen million dollars to enable the Council to carry forward its programs of research and demonstration toward the solution of library problems.

The Council conducts much of its work through grants or contracts to appropriate organizations or individuals. It welcomes proposals for work in furtherance of its objectives.

INTRODUCTION
The Year 1969 - 1970

As in the past, the Council on Library Resources has this year devoted considerable attention to the application of the new technology to libraries. By now sufficient resources and time have gone into these areas to permit a general understanding of the problems; librarians are learning what can and cannot be accomplished with available funds. A certain amount of disillusionment has surfaced as a result of the apparent failure of technology to meet completely the demands of library processes. However, when one recalls the almost unrealistic expectations and over-optimism with which some projects were undertaken, a degree of disillusionment was inevitable. Failures as well as successes have some very important lessons to impart, and it is our hope that out of this learning process the Council can help to synthesize a viable approach to the application of modern technology to libraries.

It has become increasingly evident that the average library will never be able to "go it alone" in some aspects of the new technology – automation, for example. The level of investment required to reap the benefits of the emerging national machine-readable data bases exemplified by MARC is far beyond the individual budgeting capacity of any but the very largest libraries. Agreement is growing that the only possible solution to the dilemma – especially for medium-sized and small libraries – is for them to band together in local, state, or regional consortia and thus pool their assets and efforts. Such concepts of necessity go beyond the formal and informal cooperative arrangements already extant in the areas of interlibrary loans and shared cataloging. In some places thought is being given to formal agreements that require this kind of pooling of resources across scholarly disciplines and even across legal boundaries which were considered sacrosanct only a few years ago.

The Council will continue to encourage cooperation in library systems. At the same time, since the kinds of consortia under discussion are so expensive and complex as to preclude their development everywhere at once, it would seem reasonable for

the Council and other funding agencies to select the most promising of each of several types of development for a concentration of support. In this way uneconomical dispersion of limited available resources will be avoided.

Cooperative librarianship of the type contemplated calls for compromise to a degree not yet attained. The area of standards perhaps provides the best example of this requirement. In the past the librarian had relative freedom in choosing bibliographic codes, for example, as long as all his cataloging was done and remained in house. To use MARC, however, the librarian is faced with a difficult choice: he can accept the codes found in MARC, or he can laboriously (and expensively) convert them to his own. It seems evident to us that the economics of cooperative library systems require the promulgation and acceptance of more and more standardization in library work, and the Council will foster this concept at every opportunity.

As readers of these reports know, the interests of the Council on Library Resources go well beyond systems technology to encompass most significant areas of research library need. These, as well as the developing technology, are described in the pages that follow. In this report of the Council's fourteenth year, during which $1,722,375 was appropriated for the support of 29 new projects and work was continued or completed on a good many more, we have endeavored to share with you our perception of the problems and our efforts to contribute to their solution. We have attempted to express as well something of a philosophy concerning library development and services.

We believe that there exists insufficient understanding of the important contribution libraries make to our society and that they receive inadequate attention in many places. The work the Council does to assist in the modernization of libraries and in making more effective and economical their services will, we hope, serve to improve this situation. But these and other tasks we perform only touch at the problem.

The role we play is at times frustrating; some librarians are apparently wholly satisfied with their loneliness, and their associates outside their booklined halls are almost entirely ignorant of the importance of libraries and librarians. But this too will change.

FRED C. COLE
President

The Council's Program, 1969-1970

I. LIBRARY ADMINISTRATION AND MANAGEMENT

These days large university and independent research libraries, with their budgets in the millions, are major enterprises, and as such must be prepared to develop and utilize the new techniques necessary to operate large organizations efficiently and economically. They need to take a long, hard look at their staffing patterns, space utilization, and organizational practices to discover if they are in fact making the most of available resources. This becomes more essential every year, as basic costs and user needs increase, with no corresponding increase in purchasing power. Further, the library must be prepared to compete for funds on equal terms with other elements of the parent institution lest its requirements be overshadowed by the demands of more vocal and visible members of the community of which it is a part.

In an effort to provide librarians with the management tools they need to operate and budget more effectively, the Council in 1969 embarked on what might hopefully become a master plan for the improvement of library management. This envisaged a series of grants whose purpose would be

- to identify the problems,
- to work on those problems which seem amenable to solution,
- to assist libraries in putting into practice some of the recommended solutions.

Research Library Management

As previously reported,[1] the Council in 1969 made a grant to the Association of Research Libraries to enable it to undertake a preliminary study of the problem of research library management. The study by Booz, Allen and Hamilton, Inc., management consultants, was completed during this fiscal year and has been published.[2]

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[1] XIII: 24. Citations in this form refer to the Council's annual reports; in this case, for example, to the 13th Annual Report, page 24.

[2] *Problems in Library Management.* Booz, Allen and Hamilton Inc. for the Association of Research Libraries, Washington, D.C., 1970. 63 p.

The study group was guided in its work by an advisory committee of eminent university officers and librarians. The report

- discusses current trends in higher education and their implications for university libraries,
- describes the major problems in various areas of university library management,
- provides recommended approaches to the solution of specific problems,
- identifies the major steps and considerations in implementing the recommended approaches, and
- suggests general designs for needed research in the future.

Study of Library Economics A basic problem in library management lies in the area of economics. Everyone knows that university library costs are rising rapidly, yet there is little firm, specific information on why this is so. These rising costs must be placed in proper perspective by relating them to their causes and to rates of growth of comparable costs elsewhere in the institution and in the economy. For example, it might be useful to display university library development expenses as a fraction of the total budget for higher education, or even of the nation's gross national product. Much must be done to standardize the units of such costs so that comparison among programs is valid. The Council has contracted with Mathematica, Inc., Princeton, for the first phase of a study of the economics of library operations. The data to be gathered and analyzed will provide the foundation for future budgetary planning by educational institutions and the various funding agencies, furnishing them with a realistic picture of the financial needs of libraries, given the demands that are made upon them.

Study of Unit Costs in Library Operations Unit costs of library operations, especially in technical processing, are illusive indeed. The studies one reads on the subject are often more confusing than helpful because of the wide diversity of the libraries reporting and the purely local elements — staffing patterns, physical organization of the library, etc. — which are of necessity determining factors in each study. In the spring of 1969 the Council contracted with Information General Corporation for a pilot study into the unit costs of such technical processes as data conversion (to machine-readable form) and

serials records processing.[3] In several ways the results were disappointing; additional refinement of them is needed.

The project succeeded in achieving first steps toward the development of a standard methodology for analyzing and reporting the cost of data conversion, a procedure that is sorely needed by the profession. In no other way can meaningful comparisons be made between systems or between manual and automated approaches to the same steps in a single system. If the application of technology to libraries is to be capable of justification on a cost basis, the ability to measure costs, both before and after automation, is essential.

Model Research and Development Unit

Librarians have long thought that a requirement exists for a formal mechanism which will advance librarianship by the systematic application of research and development to libraries. It was not so clear, however, how this might best be done. What seemed required was, if you will, research into research and development; at best this would be done by librarians inside a working library. The Joint University Libraries at Vanderbilt (Vanderbilt University, George Peabody and Scarritt Colleges) this year undertook, with support from the Council, to establish such a unit.

Among other tasks, the unit will be responsible for updating an existing ten-year plan, investigation of the possibilities for automation, application of management principles, budget and fiscal planning, coordinating book selection, centralization of technical processing, and regional planning. It will look at the possibility of expanding the already substantial cooperative effort of the Joint University Libraries into nearby institutions. It is anticipated that an enlarging system could encompass all thirteen colleges and universities in the Nashville metropolitan area.

New Directions for ALA

If it is to keep abreast of the demands of a rapidly changing world, any library association had best do some soul-searching to see when and where changes in its structure or operation are needed. The American Library Association recognized the requirement and took action, with the assistance of a Council grant. The Association established a 13-member Committee on New Directions chaired by Frederick H. Wagman, director of the University of Michigan

[3] XIII: 24.

library, to review past activities, consider present needs, and plan for the future. The committee has produced some constructive criticisms and recommendations, which are being acted upon by Association membership.

II. MODEL LIBRARIES

More than ever our society needs thoughtful men and women with a sense of history, to protect the democratic institutions that merit it and reconstruct those that require it. The libraries of our colleges and universities are central to the educational process that can and must produce the reservoir of national leadership to take us safely through the decades ahead. In the programs described below the Council has initiated three different approaches to the task of encouraging academic libraries to assume their proper role in education today – and tomorrow.

College Library Program The academic library's function goes well beyond mere support for the teaching program. It has the potential to sharpen a student's intellectual curiosities to the point where they will demand satisfaction all his life. It must use that potential and apply its resources to make itself a full partner in the education of the student. As in any partnership, active cooperation among the principals is a *sine qua non.*

The Council's preliminary work in identifying the need, establishing the goals, and formulating the procedures culminated in a cooperative arrangement with the National Endowment for the Humanities to provide matching grants for the support of programs designed to bring the library further into a central role in the education of undergraduates. Several carefully selected colleges and universities were invited to submit creative yet practical proposals which would have the full support and cooperation of all segments of the academic community. During the year covered by this report three institutions have received grants in equal amounts from the Council and the Endowment for innovative library-centered educational programs, and are themselves to match the grants over a five-year period.

– Brown University, in Providence, Rhode Island, is moving into a new program for independent study. Under the CLR-NEH grant the University will experiment with the use of graduate students to serve, with faculty support, as reference assistants in their various disciplines. A

11

faculty advisory committee is participating in the development and guidance of the program.

- At Dillard University in New Orleans the library staff is developing with the faculty cooperative programs for integrating the library and its services with the teaching and research programs in the social sciences and humanities. Leadership programs are also planned, with the library taking an important role in developing the individual student's competence in independent study and activity.
- Jackson State College in Mississippi is formulating a creative learning project involving classes in the humanities with joint participation by students, faculty, and library staff. The program is intended to lead to greater reliance upon library resources as the students are stimulated to independent and creative thought and action.
- Matched by the college itself, Council funds also support a project at Wabash College designed to change the concept of the library from that of a storehouse for information to that of a workshop in the liberal arts. Freshman seminars, led by a professor with the assistance of specially trained upperclassmen, will pursue topics chosen because of their interest to the participants. The seminars will be so constructed and conducted as to require a greater than ordinary amount of library use.

The colleges and universities thus far accepted for the program represent institutions of varying size, location, and character. Under consideration now are a large urban university with a considerable number of disadvantaged students, and a new experimental small liberal arts college. The projects these and others undertake should prove valuable beyond their institutional walls. Successful programs may serve as models to academic institutions throughout the country.

M.I.T. Engineering Library The College Library Program is directed largely toward improved utilization of libraries in the fields of the humanities and social sciences. The grant this year to the Massachusetts Institute of Technology's Engineering Library represents an effort to improve utilization of libraries in a field of the sciences and technology. In close cooperation with Project Intrex (described later in this report) and using the products developed by it, the M.I.T. Engineering

Library is experimenting with a "library in transition" — one in the process of learning and demonstrating what must be done to continue to provide conventional services to its users while moving toward heavy reliance on the new technology.

The experiments under way and planned for this imaginative venture are not all technology-based. For example, one of its products is *Library Pathfinders,* an introductory bibliographic guide which should prove useful in almost any library, regardless of its purpose or plans for automation. These guides tell the user how to use specific portions of the collections and how to find library holdings on the subject. Each one first explains its scope, tells which books include the subject of the guide and where to find them in the card catalog; pertinent call numbers are given. Next are listed handbooks, encyclopedias, and dictionaries which contain related information. Reference is made to bibliographies, journal articles, reviews, conference proceedings, and reports in the area of interest. *Pathfinders* have thus far been prepared in fifteen areas of engineering (e.g., radiation heat transfer, film boiling, thermal boundary layer), and more are contemplated.

The Core Collection According to John W. Gardner, former Secretary of the Department of Health, Education, and Welfare, approximately 50 percent of the four-year colleges in the nation fail to meet the American Library Association's minimum standards for library collections in terms of volumes per student.[4] The inadequacy is compounded when lack of quantity is accompanied by, in too many cases, lack of quality. For the institutions that make up the 50 percent are also those with understaffed libraries, where the personnel have not the time and often not the training to make the careful selection of books a well-stocked library requires.

In an attempt to ameliorate this situation the Council several years ago developed a plan for package libraries; i.e., collections of books, deliverable as packages, whose selection is centralized. The first step in such a program is the development of the Core Collection — the 40,000 or so basic titles any four-year liberal arts college should have on its shelves. The second step is computerization of the list to serve as the basis for production of catalogs.

[4] XIII: 36.

At the conclusion of fiscal year 1969 the Council made a grant to the American Library Association[5] and this year completed formal arrangements with it for the first two steps, with production of the catalog scheduled for late 1971. The ALA's member Association of College and Research Libraries is assuming the responsibility for developing the basic list that will comprise the Core Collection. Organization and operational procedures have been worked out by an advisory committee chaired by Philip J. McNiff, Director of the Boston Public Library.

III. ASSISTING THE DEVELOPMENT OF A NATIONAL LIBRARY SYSTEM

In a different world, the United States might have a single library system wherein the optimum degree of centralization would insure the optimum use of resources to provide the best possible services to library clientele. Cataloging would be done once, at the center, and centralized procurement would satisfy the requirements of all libraries. The economies of centralization would permit cataloging, and especially indexing, in greater depth. Cataloging data would be available on demand and would reach the using libraries in a timely manner, as would books and other materials centrally procured for them.

There would be a single national data base in machine-readable form encompassing all types of library materials. This data base would represent the combined holdings of all libraries and would be based on the collections of the three national libraries. This would require that the central bibliographic services of the three be fully automated and completely compatible with each other. A communication network would make the combined assets of the national system freely available to all libraries and, through them, to their users and the general public.

The sums of money required for such a system are obviously not now available and, even if they were, a single system of the type described probably could not be built. For one thing, such a system is not politically feasible in this country. For another, our data bases and our organization of knowledge are not yet sufficiently advanced to support such a single system. But libraries can continue to cooperate, and that cooperation can be

[5] XIII: 36-37.

enhanced by the proper application of technology and the concomitant elimination of some wasteful duplication.

What can be done is somewhat as follows: A national data base can be built. The use of the materials represented in it can be facilitated by the construction of varying arrays of library cooperatives. Some will be regional in nature, some will be international. They will develop on different schedules and with greatly dissimilar budgets. Funds will come from various sources, governmental and private. Every level of government will be involved: local, state, and federal. What will emerge will be a flexible confederation of library systems working toward an ideal system, but basing their plans and expectations on reality.

In the next sections some of the pieces of the puzzle are described, and the steps the Council is taking or hopes to take to help fit them together.

A Look at the Size of the Problem

At the end of fiscal year 1970 the Library of Congress held 61,317,142 pieces of library material.[6] During that year it had acquired 1,717,133 pieces. Included were books, serials, music, manuscripts, maps, audio and video tapes, phonograph records, photographs, paintings — in short, almost every medium in which knowledge is recorded. Many of these materials were processed into the thousands of other libraries in this country. Each library required information about many of these items which would permit their selection, acquisition, cataloging, storage, advertising, retrieval, circulation, and control.

For the purpose of their handling in libraries these materials may be separated into three broad categories, each having subdivisions which impose varying requirements on the library: monographs, serials, nonbook materials.

Monographs are cataloged and then segregated into subject classes for shelving. Serials receive the same treatment. Ideally, each article in the serial issue should itself be controlled as a separate item, but in only a few places is this done, e.g. at the National Library of Medicine and the National Agricultural Library. Nonbook materials are cataloged as individual items in a manner roughly similar to that used for monographs. The catalog entry thus becomes a surrogate which describes a particular package of recorded knowledge.

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[6] *Annual Report of the Librarian of Congress for the Fiscal Year Ending June 30, 1970.* U.S. Government Printing Office, Washington, D.C., 1971.

Cataloging rules have undergone major revision twice in the last 21 years. The rules are detailed and quite complicated. Although there have been many attempts to standardize cataloging and eliminate duplication of effort, libraries generally prefer to catalog books on the basis of their own needs and persist in their own interpretations of the cataloging rules. Thus, the existing corpus of literature in U.S. libraries has been cataloged under two or more sets of rules – rules which were interpreted by literally thousands of individuals. In addition, several classification systems are in use, and these too are applied differently in different places.

The improvement of libraries by the application of technology must be approached with a clear understanding of the diversity that exists among American libraries. That diversity is, of course, the natural outgrowth of special functions and purposes. A small school library, a highly technical library for specialists, a national library – to name only a few out of many – require different systems and levels of classification. Some of these differences will be eliminated – in time – by standardization, centralized cataloging, and centralized data conversion. Others, however, will always be with us and must be allowed for in systems design.

Data Base Development

One phenomenon associated with decentralized and uncoordinated application of technology is the simultaneous development in many places of machine-readable bases of bibliographic data, a fact which clearly establishes the widespread requirement for them. As they are developed in parallel, many costs are duplicated. Since the construction of data bases is one of the most significant costs of library automation, it seems clear that there is need for a coordinated national approach to their development. To be useful and used, such national data bases should have a minimum set of attributes. These would seem to be comprehensiveness, authority, accessibility, timeliness, standardization, and reasonable cost. The design parameters imposed on a national data base by each of these minimum attributes follow.

– *Comprehensiveness.* The national data base requirement encompasses *all* recorded knowledge represented in bibliographic files which are to be handled in automated library systems. Included are monographs, serials, maps, music, audio-visuals, and other nonbook materials.

- *Authority.* To construct authoritative data bases requires centralized control of the authority file building process. Thus, a single authority file is an essential element of a national system. Like the data base, the centralized authority file could be distributed, as required, on tape.

- *Accessibility.* To be accessible, the national data base must be in machine-readable form. Products in other forms are easily made and disseminated from a machine-readable store.

- *Timeliness.* To be timely, a data file must arrive in the using library before the start of the library process it is designed to support.

- *Standardization.* This applies to bibliographic, automatic data processing (ADP), and communications standards, and to some codes and standards which may come from outside the library community – for instance geographical place name codes from the Bureau of Standards. No effective national interchange of data is possible without widespread compatibility among systems. Librarians will have to come to the realization that complete autonomy in decision-making at the operational level and efficient automation are so inherently incompatible as to be mutually exclusive. Standardization requires compromise, and in data base building it implies centralized authority files. Librarians may have their differences about classification schemes; computers can operate only against specific definitions.

- *Reasonable Cost.* No data base deserves discussion unless the nation can afford it. And our ability to afford it is a function of a coordinated national approach. Let us say it costs nearly three dollars to convert one bibliographic record to machine-readable form and a much larger amount to catalog the item recorded. When one considers the tens of millions of records involved, logic would indicate that this price should be paid only once, if it is at all possible.

Two extremely significant beginning – but only beginning – steps have been taken toward creation of this essential national data base. Both have, properly, been at the Library of Congress, with assistance from the Council. They are discussed below.

The Machine-Readable Cataloging Project (MARC)

MARC is the result of a series of Council grants [7] to the Library of Congress and a significant investment on the part of the Library itself. It began as a standard format on magnetic tape for the communication to other libraries of bibliographic data concerning English language monograph titles cataloged at the Library of Congress (LC). MARC was the first development of its kind and magnitude in the world. Because it did not – and properly could not be expected to – cover the entire cataloging effort at LC initially, it was necessary for it to coexist with the balance of that system for some years. And the system at LC was geared to the production and filing of catalog cards. Thus, the principal parameters of the MARC design were preordained: it was to be oriented toward catalog cards and the rules for manually filing those cards. There is nothing wrong with these decisions; they were inevitable under the circumstances. But they must be kept firmly in mind when MARC is used, especially when it is used for purposes other than the one for which it was designed: the transmission of bibliographic data on magnetic tape.

External to the Library of Congress, MARC is potentially a great boon to libraries, comparable to the advent of the LC card distribution service, for records in machine-readable form can be manipulated in many different ways. Catalog cards are only one type of output possible from them. They may be used also as machine-readable input to a system to supplement the local cataloging work. As their receipt becomes more nearly current and as their coverage grows, MARC records will support local selection, acquisition, and payment functions. Already the MARC tapes are more timely than the older proof slips and may well supplant these in libraries equipped to handle MARC. The possibilities are almost endless. As MARC gradually obviates the need for most local cataloging national standards will surely ensue, and as the local librarian is released to other work he will find it less and less necessary to make numerous adjustments to the MARC record.

Most libraries will probably not be able to afford to use MARC individually. Consortia of some kind will very likely be required except by the largest of our libraries.

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[7] X: 29-30, 41-42; XI: 11-12; XII: 13-14; XIII: 13-14.

Retrospective Conversion of Catalog Records (RECON)

Since the date of its implementation (1969), MARC has dealt only with English language monographs cataloged at the Library of Congress after that date. It is evident that any full system at LC would require machine-readable records on English titles already in the file when MARC began and on titles in other languages. Accordingly, a pilot project in retrospective conversion was begun at LC with financial support from the Council on Library Resources,[8] augmented by Library of Congress funds. The Office of Education has also agreed to help, principally with "format recognition." In format recognition a computer would recognize (from clues derived from the content and context of the entries on a card, from the kind or size of type used, etc.) the bibliographic value of each part of a record as it enters the computer and would then apply the MARC tag signifying that value to the part. If it proves feasible, format recognition will save many hours of editing by high-level staff. Experiments with optical reading devices will be conducted to determine their role in the input process. There is no device now available which will read directly from catalog cards.

Enough work has already been done on RECON to prove its technical feasibility for English language monograph titles. There is a consensus that a complete machine-readable data base is required by any automated system at LC if the Library is not to operate indefinitely two systems covering the same bibliographic records, one manual and one automated. What remains is how best to do the conversion and how much it will cost. RECON was established to answer these questions.

Two other developments are contributing to the establishment of a national data base. They are described below.

The National Serials Program

Serials are those items of literature which are published on a regular, continuing basis in numbered volumes and issues. Recent studies and pilot work at the Library of Congress have clearly established the requirement for a coordinated national approach to the control of serial literature. This approach must accommodate all producers, handlers, and users of serials: publishers, libraries, indexing and abstracting services, researchers, other readers, and the general public.

The world population of serials is variously estimated to be

[8] XIII: 14-17.

between 600,000 and 750,000 titles, with perhaps half the number currently in publication. The serial record at the Library of Congress includes approximately 1,300,000 catalog cards. A problem of such magnitude is best approached in phases, and seven were outlined by the planners. Phase I began at the Library of Congress in 1967, funded in part by the Council.[9]

In Phase I the serials universe was studied and the library community questioned about definitions, purposes, and what should be included in a serial record. Thus approached, the serials problem appeared too massive for solution. It was therefore decided to mount a pilot effort outside the Library of Congress and its internal serials processing. The Association of Research Libraries was designated executive agent for the pilot project, under the aegis of the National Libraries Task Force, which includes on its staff two Council specialists. The work of the project is restricted to a machine-readable file of currently published scientific and technical serial titles held in the three national libraries. Its primary purpose is to experiment with bibliographic data in machine-readable form in order to learn as much as possible, to build files, and to establish techniques and procedures upon which a National Serials Program can later be built.

Standard Serial Number (SSN)

Serials systems require that each title be uniquely identified. If the handling of titles is to be automated, the requirement for unambiguous title identification is absolute. Computers are unable to make subjective decisions about the relationship between dissimilar titles for the same serial. Look-up tables can be constructed which will allow the computer logically to decide that the one equals the other, but to include all possibilities (some unforeseeable) requires immense computer storage and a great deal of expensive computer time. This can be avoided if a serial title always bears a unique number, no matter what the form of catalog entry – hence the vote favorable to the acceptance of the Standard Serial Number proposed by a committee of the American National Standards Institute.

The logical locus of the responsibility for the SSN is the Library of Congress, where the bulk of the world's serial collection is processed. This does not necessarily mean that all development must take place there. It seems useful, then, for the National Serials Pilot Project to experiment with the assignment of

[9] XII: 14-15.

the SSN and the maintenance of the machine registry of the standard in its retrospective file, while LC experiments with SSN assignment to newly-established serial titles. These two complementary efforts will permit a rational decision as to where to place and how best to organize a center for the National Serials Program.

Several agreements are required: a serial must be clearly defined; also to be defined is the point at which a serial loses the identity as shown by its SSN – at that point a new SSN must be applied to the successor publication. It should be emphasized that in itself the assignment of the SSN is not expensive; the work of identifying existing and new titles goes on all the time. As a title is identified, either as being new or already in the file, the SSN is applied to it. As to maintenance – the titles themselves must be maintained; the SSN is simply another data element.

What *is* expensive is the cataloging necessary to identify serials. A National Serials Program should strive to eliminate some of the duplication of cataloging effort now going into this class of materials. The pertinent Anglo-American Cataloging Rules need to be examined to see whether serials automation will be enhanced by minor changes in the rules. Agreement is also required on such matters as publishing rights pertaining to the SSN. Ways must be found to encourage publishing agencies to imprint the Standard Serial Number on each serial issue. These are matters that can be worked out as the system develops.

From all of this it is apparent that only the surface of the requirement for a national data base has been scratched. Even when MARC and RECON are combined and extended to other languages they will not completely satisfy the requirement. While the National Serials Program will eventually provide serials information, it will not satisfy the requirement for access to articles within journals. And, still remaining to be dealt with are all the nonbook materials requirements.

Interlibrary Cooperation and Networks

When one considers how libraries may best take advantage of the emerging national data bases and related software developments, several things become readily apparent. The first of these is that only the very largest libraries will be able to afford

dedicated computer systems capable of using MARC, for example. All others wishing to benefit from the gains inherent in the developments will have to give serious thought to the formation of networks and consortia. Further, given the disparity among libraries in the areas of funding, size, ability and readiness to accept technological change, it is neither technically feasible nor economically possible to promote such development all over the country at the same rate. One must acknowledge the fact that some libraries are better prepared than others to develop and accept modern technology and that, even among those libraries where conditions are propitious, the limited available resources will restrict severely the number of projects to be supported. Two such projects are described below.

New England Library Network (NELINET) Previous reports in this series have described the NELINET Project of the New England Board of Higher Education.[10] NELINET now has the capability of producing, on demand from subscribing libraries, sets of catalog cards (with a local call-number option), spine labels, and book pocket labels for titles included in the MARC Distribution System. Development continues; near term objectives include the solicitation of more member libraries and the development of a capability to supplement the MARC II material with local cataloging. A report covering the entire effort to date was received this spring.[11]

Ohio College Library Center (OCLC) The Ohio College Library Center in Columbus is developing a comprehensive computer-based bibliographic system to support the technical processes of participating libraries of the region. The Council has made a small grant to assist the project; principal support has come from the Office of Education. The OCLC cataloging system uses data taken from MARC tapes to produce card sets tailored to the requirements of the requesting library. The system has been debugged and is now operational off-line. Future plans include the merging of locally-produced catalog data with those from MARC so that more complete services may be rendered. On-line support to catalogers is also

[10] XI: 12-14; XII: 12; XIII: 17-18.

[11] *Final Report*. New England Board of Higher Education, Wellesley, Mass., 1970. 151 p.

planned. In addition, OCLC intends to build an on-line circulation control system and a technical processing system. Discussions have been held with librarians outside Ohio to explore the possibility of extending this growing library system into an interstate network.

IV. DEVELOPING TECHNOLOGY FOR LIBRARIES

The Council has from its inception supported developments which have led to the application of new technology to libraries as it became available and proved useful. In an attempt to bring them into perspective, the various technological developments of current interest to the Council will be discussed in this section.

Computer Systems and the National Library Community

Although there are numerous experimental and operational computer applications to information handling around the nation, there appears to be little coherence in the overall picture. Moreover, in many instances the technical and scientific basis for responding to immediate and to long-term needs is not clearly understood.

In an effort to remedy the situation the Council this year made a grant to the National Academy of Sciences for a study by its Computer Science and Engineering Board's Information Systems Panel. The panel, composed of technical experts in the various aspects of the study, approaches its work on the assumption that libraries are the chief source of information support for science, technology, and scholarly activities. Through studies of the literature, site visits, dialogues with knowledgeable librarians and spokesmen for industry – augmented by their own experience and know-how – the panel is seeking to identify those deficiencies in the understanding or development of computer science, engineering, and related technologies which appear to impede their effective application to library problems. It hopes to focus attention on the proper direction of resources to assure the development of the needed principles and capabilities in a form that can be widely used to meet the national requirements in the handling of information.

It is our hope that the panel's report will be most useful to the Council and others in the effort to bridge the gap between the developing technology and library needs.

Problems in Technology Although the use of electronic computers in library work began about ten years ago, no major library in this country is yet fully automated. This is the result of some hard facts of life.

- Very few libraries can afford dedicated computers capable of handling their operations. Those who use computers generally share them with other activities of the parent institution. This often causes problems when the institution decides to change hardware or software.
- The number of libraries with budgets large enough to support development in automation is small indeed. Such development to date has been funded – often with two or more agencies sharing the cost of one project – by the Council on Library Resources, the Office of Education, the National Science Foundation, the sponsoring institution, and some others.
- No one yet knows how best to organize very large bibliographic files in machine-readable form so that there is a proper balance of cost, ease of access at multiple points, and maintenance of the files; several experts are working on the problem. Currently available magnetic storage devices of the size required by major libraries are either very slow, or very expensive, or both.
- The greatest amount of experience in the use of computers has accrued in the area of data processing (i.e., computation) rather than in the manipulation, storage, and retrieval of strings of alpha-numeric characters which are pertinent to the needs of libraries. Where large information files do exist, the data records are usually of fixed length and relatively static in nature. Bibliographic records, however, consist chiefly of variable-length elements, and they require frequent update. Most of the recent government-sponsored research and development has focused on the accurate and rapid handling of mathematical calculations, as in space flights; very few such projects have helped those with large files of information to handle.
- Because of the comparatively small market, manufacturers have not produced computers, related equipment, and basic software systems designed specifically for library applications. Therefore the library community must use equipments and systems developed for quite different

kinds of applications. This shortcoming is especially acute in that most input/output devices cannot adequately handle the expanded character sets required in library operations.

– In the libraries themselves people are just now beginning to understand how to handle files of the surrogates which describe the literature held in libraries. The only widespread use of computers to access the document content itself revolves around the use of subject terms which describe the content and are manually tacked on to the surrogate at input time. No extensive work has been done on putting entire texts into machine-readable form (or manipulating them in computers) for two principal reasons: no machine exists which will store entire libraries economically, and no economical method exists to translate books into machine-readable form.

Where the computer is used in a library, the approach is usually to automate one library function at a time. This is the only reasonable approach for most libraries, and librarians are learning automation by doing, which is all to the good. This approach insures, however, that the librarian will incur large costs without receiving correspondingly large benefits, especially at first. For it is an inescapable fact that the maximum benefits any given library will ever get from its automation program do not accrue until that program is fully operational. Only then will all the products, by-products, and services (including better services and new ones not economically feasible in manual systems) become available. To illustrate: A library builds a data base and acquires the necessary computer facilities to produce catalog cards. This is not easy; it is expensive, and takes a long time. The same data base and facilities could support the acquisition, payment, and circulation control functions of the library with relatively minor increases in expenditure. These are the areas in which improvement would have a large (and visible to the user) impact on the library. But they must take a back seat until the initial system is operational. Meanwhile the librarian spends a great deal of money and has little to show for it.

To further the development of the cooperative national library system previously described, the Council selectively supports several kinds of technological development. These are chosen when they appear to fit the overall pattern of development, have the enthusiastic support of the sponsoring institution and a commitment for continued funding upon reaching operational status,

and are technically sound in concept and realistic as to schedule. Last but surely not least to be considered is the expertise of the proponents themselves. For it is a truism of the new technology that the human problems encountered in its application are at least as difficult as the technical problems.

Some of the projects supported by the Council which might have been listed in a section dealing with technology are described elsewhere in this report. Some others will now be discussed briefly.

As previously mentioned, the library systems designer finds himself constrained by the character-set limitations of the devices which encode data for computers and print their output for humans to read. These peripheral devices typically were designed for systems whose input/output requirements had always been satisfied by the character sets on the keyboard of an ordinary American typewriter. In the library manual system the added-character requirements were met either by handwriting or by the use of special typewriters. The print chain on the ordinary computer line-printer does not offer much over typewriters (or teletype machines) in the way of expanded character sets. These chains can be modified to add characters, but at a significant cost in printing speed. When output consists of printing in bulk as in library catalog publications, a faster device able to handle an enlarged character set is required. The requirement is at least partially satisfied by electronic photocomposition devices such as the GRACE system of MEDLARS and by Computer Output Microfilm, or COM.

Computer Output Microfilm COM devices receive information from magnetic tape or directly from computers and re-create it as visible characters on the screens of cathode ray tubes, from which it is automatically microfilmed. Because the characters are generated electronically, recording is at a very high speed and there is the potential for a much expanded character set. The speed of operation and the reduced size of the recording medium result in a low cost per page. Storage, use, and delivery of COM output are considerably enhanced by its reduced bulk.

COM capability and the advent of low cost cassette-load reading machines offer a potential, as yet largely untapped, for catalog production wherein the only equipment required in the using library would be microform readers. We are, however, some

distance from fully realizing that potential. The optimal microfilm reader is not yet available, and indexing techniques need improvement. Nonetheless this is a very significant area of technological development.

Test of a COM-produced Catalog As a by-product of developing a computer-based circulation control system, the Library at Tulane University in New Orleans developed a machine-readable store of 750,000 bibliographic items. This data base was used to generate short-title book catalogs by a magnetic tape to microfilm to hard copy procedure. The last conversion was performed xerographically with Copyflo equipment. While these catalogs have been useful, their cost caused the library to search for alternative approaches. The Council recently made a small grant to enable Tulane to produce and experiment with catalogs in microform, eliminating the microfilm to hard copy procedure and thereby saving the cost of printing and binding. The grant provides for reading machines to be placed at two locations remote from the card catalog and for varying the kind of reader and other factors of access. Thus it is hoped that knowledge of user acceptance, preference, and work habits can be gained.

Project Intrex This year the Council made another in a series of grants [12] to the Massachusetts Institute of Technology for continued work on Project Intrex (*In*formation *Tr*ansfer *Ex*periments). As readers of these reports know, Intrex has as its objective the development of innovative methods utilizing new technologies to bring under control and provide better access to an ever-growing mass of books, periodicals, reports, and records. Project Intrex has assembled, in an automated system, a strongly augmented catalog, abstracts, and full texts in microform, together with the means to search the catalog from a remote cathode ray tube terminal, view the full text of selected items on another type of display console, and then print hard copy if desired in full size of the selected items. As of June 1970 the Intrex data base, which is subject to continuous expansion, consisted of approximately 10,000 journal articles in two fields of materials science and engineering.

The augmented catalog and text access systems are now operational in a controlled environment, and more than twenty-five

[12] XI: 14-15; XII: 13; XIII: 18-19.

carefully structured experiments have been carried out which go deeply into the problems of man-machine interaction as it will take place in the library with a heavy commitment to automated systems.

While it is too soon for firm conclusions, the recall and precision of the augmented catalog appear to be superior to those of traditional bibliographic retrieval techniques. Immediate plans are to make the system available to additional researchers and students in highly controlled as well as relatively free use situations, in order to increase the statistical significance of the findings.

University of Chicago Library System During the period 1966-1970 the University of Chicago developed an extensive automated catalog system. In the process, it converted approximately 100,000 bibliographic records to machine-readable form as a base for the system. The Council has granted $400,000 and the National Endowment for the Humanities has matched this amount to support the design and development of a major extension of this system. The plans envisage a comprehensive library data management system which will provide for very large file processing, indexing, and multi-key searching to produce bibliographic data useful both to library staff and to users. As it develops this system will be staged into the support of such other library processes as circulation control, management information, and serials processing. It is anticipated that other national data bases besides MARC will be incorporated into the system. The University of Chicago Library system has a firm foundation of experience, systems design, and library technology generally upon which to build a comprehensive library system which should serve as a model for other large research libraries.

LISTS As previously reported,[13] the Council contracted with the System Development Corporation for a test of LISTS (*L*ibrary *I*nformation *S*ystem *T*ime *S*haring *S*ystem). This experiment has now been concluded and a final report issued.[14] LISTS was designed to test the technical and economic feasibility of combining several elements into a viable whole to

[13] XIII: 19-20.

[14] *Library Information System Time-Sharing (LISTS) Project Final Report.* System Development Corporation, Santa Monica, Calif., 1970. 209 p.

furnish automated support to a number of libraries of varying size and type without forcing an unacceptable degree of standardization upon any of them. Thus combined were a large general-purpose third generation time-sharing computer (IBM 360/67), a general-purpose file management system, and the MARC II data base. Support was to be furnished to acquisitions, cataloging, serials control, circulation control, and some aspects of reference service. The test operated approximately eight months; not all of the libraries stayed in the full time.

Several interesting conclusions were drawn; these tend to substantiate what some librarians knew intuitively or are learning by their own experiences.

- It is more efficient for medium and small libraries to join forces when automation is contemplated than for each to "go it alone."
- General-purpose data management systems will not perform all library functions without significant modification.
- Not all library functions are equally amenable to automation. As might be expected, operations of a routine, clerical, and repetitious nature are especially adaptable to computer systems. Examples which turned up in this limited experiment are: ordering, searching, circulation control, and book-catalog printing.
- The MARC II coverage is not yet wide enough to support many library processes, and the timeliness of the arrival of the tapes at the using library is critical to their value.

Handbook of Data Processing for Libraries

In 1965 the Council made a grant to the Regents of the University of California for the compilation of a comprehensive handbook on data processing for libraries.[15] The grant covered the research and the preparation of the results for publication, with publication arrangements to be made separately. These have now been completed and publication of the work by John Wiley & Sons, Inc., is anticipated later this year. The authors are Robert M. Hayes and Joseph Becker.

Chinese Bibliography in Social Sciences

Since 1964 the Social Science Research Council in New York, with funding assistance from several sources, has been engaged in compiling a four-volume bibliography of Chinese

[15] IX: 41-42; X: 102.

material. Each volume is to contain approximately 40,000 citations, annotated by a scholar competent in the appropriate field. Aside from the scholarly work involved, the project is interesting because of some technical complexities. The body of the work and three analytical indexes are photo-typeset by computer, in New York, in English, for a Linotron 1010. Some main headings, authors, and titles are in either Chinese or Japanese and must be photo-typeset by computer in those languages, in Tokyo. A modest grant from the Council, matched by the National Endowment for the Humanities, has provided the assistance needed to complete the work. Publication is expected within a year.

Conservation and Preservation of Books

The problem of deterioration of research materials is common to all libraries whose collections include books and other materials published since the mid-nineteenth century, when acidic alum rosin sizing was introduced into the manufacture of paper. Older books, on better paper, deteriorate more slowly. There are of course other causes of deterioration, but the basic problem derives from the materials and methods of manufacture.

The Council has continued its support of the W. J. Barrow Research Laboratory,[16] making a new appropriation this year for its valuable work in preservation. The Laboratory has completed an evaluation of a vapor phase deacidification process, developed by W. H. Langwell,[17] which has been attracting some discussion. The Laboratory has also completed the analysis of properties of book papers, 1500-1949, and is preparing a report of its findings.

Among other projects either underway or scheduled for the immediate future are a search for improved methods of gaseous deacidification of whole books, improved specifications for permanent/durable papers, and development of specifications for a paper archive.

The Council has reported before[18] on a grant to Richard D. Smith, then a student at the University of Chicago Graduate Library School, for work on the nonaqueous deacidification of

[16] III: 31-32; IV: 27-29; V: 20; VI: 21-22; VII: 20-23; VIII: 29-32; IX: 31-32; X: 47-49, 73; XI: 34-37; XII: 29-30; XIII: 33-34.

[17] R. N. DuPuis, J. E. Kusterer, Jr., and R. C. Sproull. "Evaluation of Langwell's Vapor Phase Deacidification Process" in *Restaurator,* vol. 1, no. 3, 1970. pp. 149-164. To be reprinted by the Laboratory as Permanence/Durability of the Book - VII. See also *Library of Congress Information Bulletin,* vol. 29 no. 22.

[18] XI: 37; XIII: 34-35.

single sheets of paper. The project has been completed and a paper published.[19]

Preservation Research Office at Library of Congress

In the United States there has been no single national facility with primary continuing responsibility for identifying and solving the preservation problems of libraries and archives. The Barrow Laboratory has done excellent work on many questions associated with the preservation of library materials; there has been related work at the University of Chicago, the Imperial College in London,[20] the Newberry Library, the Boston Athenaeum Library, and elsewhere. The National Bureau of Standards and private industry have also intermittently performed this kind of research. To make a coherent whole of these assorted pieces, the Association of Research Libraries has long urged the formulation and implementation of a National Plan for the Preservation of Deteriorating Research Materials. As has been related before,[21] several years ago the Council gave assistance for a pilot project at the Library of Congress to study some procedural problems.

As one consequence of that study the Library of Congress will now establish a permanent Preservation Research Office (or laboratory), and a Council grant will assist in the purchase of equipment. The Office, which will be directed by a qualified scientist, will undertake both basic and practical research. While the program will be aimed primarily at solving problems relating to the preservation of paper, attention will also be given to problems in other fields, such as adhesives, bookbindings, microfilm, magnetic tape, and motion picture film. In addition, the laboratory will assume responsibility for testing and evaluating materials, equipment, and methods used in preservation.

V. LIBRARY SERVICES AND RESOURCES

CHOICE

As previously reported,[22] in March 1964 the Association of College and Research Libraries sponsored, with support from the Council, an American Library Association

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[19] Richard D. Smith. "New Approaches to Preservation" in *Library Quarterly*, vol. 40, no. 1, January 1970. pp. 139-171.

[20] XIII: 34. See also XII: 27.

[21] XII: 28-29; XIII: 35.

[22] III: 25-26; IV: 15; V: 41; VI: 16; VII: 50; VIII: 9, 19-20; X: 17, 72; XI: 19.

publication designed to list and review new books suitable for addition to the collections of college libraries. The journal has been well received; its subscription list continues to grow, as does the number of titles annually reviewed. CHOICE has achieved the objective originally sought of providing a centralized book-selection service at the college/university level so excellent and prompt as to make unnecessary the duplicative (and less competent) book selection activities previously conducted in thousands of institutions. Affairs are now at the entirely satisfactory stage where CHOICE has reached its goal of self-supporting status, and Council assistance is no longer required.

Library Technology Program

Three performance standards for bindings used in libraries have won the acceptance of library bookbinders. This year the Library Binding Institute, which had previously approved one, for workmanship, editorially endorsed the other two, for openability and durability. The work leading to the writing of the three standards was sponsored jointly by the American Library Association and the Special Libraries Association. Both have adopted the standards. The W. J. Barrow Laboratory, Richmond, Virginia, created the testing devices and provided the test data on which the standards are based. More than a hundred public and college libraries cooperated in the program.

Binding standards is but one of the activities with which the Library Technology Program of the American Library Association is concerned. The Program, which was established in 1958 upon the Council's initiative and has since received Council support annually in varying degree,[23] has provided a continuous program of testing and standardizing of supplies, equipment, systems, and of collaborating with industry in the development of improved or new products for libraries. Typical of the projects with which the Program has been concerned this year are preparation of a manual on library furniture,[24] a chair testing program, and an evaluation of library microform readers available on the American market.[25]

In addition to providing a free individualized information service, the Library Technology Program reports many of its

[23] II: 29-31; III: 38-39; IV: 20-21; V: 27-28; VI: 34-36; VII: 38-39; VIII: 33-36; IX: 42-44; X: 21, 54-56, 98-99; XI: 40-41; XII: 33-34; XIII: 39-40.

[24] VII: 39; IX: 44; XI: 41; XIII: 39.

[25] XII: 23, 33.

32

findings in regular columns in two library journals and in a bimonthly subscription service, *Library Technology Reports*. It also supports a publishing program of technical books for the library profession. As a part of this program, a revised edition of *Bindings and Related Materials*[26] was published this year. The author is Carolyn Horton, the well-known New York binder of fine books.

Alphabetical Subject Indexing

In 1964 the Council made a grant[27] to the University of New South Wales for support of an investigation under the direction of Mr. John Metcalfe, then Director of the Graduate School of Librarianship, into the principles of alphabetical subject indexing and cataloging. Metcalfe's approach was, in effect, a return to the principles of Charles A. Cutter, the great 19th century librarian of the Boston Athenaeum, whose name is inseparably associated with the dictionary catalog and with "Cutter numbers."

The work has now been completed and the pre-publication draft commented upon at the Library of Congress, where issue was taken with some of the findings. Not all librarians will agree with Metcalfe, but most will find some interesting and useful concepts in the work, tentatively titled: "Subject, Names and A/Z Indexing in IR Systems."

Books by Mail

Increasingly these days librarians are thinking of ways to extend extramural services beyond the traditional interlibrary loan and bookmobiles. While not new in concept,[28] lending by mail directly to the user has some intriguing possibilities. Some time ago the Council agreed to support a project designed to explore the feasibility of books by mail as a regular feature of the San Antonio Public Library's service to the city and the county.[29] The basic idea is simple: the would-be borrower telephones in his request. If his library account is in good standing, the book is mailed to him within twenty-four hours. He pays only return postage. The cost of this service was compared to that of walk-in service and was deemed

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[26] Carolyn Horton. *Cleaning and Preserving Bindings and Related Materials*. Library Technology Program of the American Library Association, Chicago, 1969, second edition. 87 p.

[27] IX: 18-19; X: 116.

[28] For an account of an earlier trial, see VI: 32 and XI: 29-30.

[29] XII: 24-25.

acceptable to the library. Librarians seem to enjoy performing the service and needless to say, patrons gave it their complete approval. San Antonio Public has now permanently installed books-by-mail as a service to the user.

Readers may be interested in some other findings reported by San Antonio:[30]

- Book loans by mail now amount to 17% of total loans.
- Phone service is at least as quick (for the librarian) as walk-in service.
- Working area required is less than ninety square feet.
- Significantly meaningful public relations values were attained.
- On-time return by mail is better than with walk-in patrons.

A Study of Book Thefts in Academic Libraries

In 1966 the Council made a grant to the University of Chicago Graduate Library School for a study by Maxine Reneker of the problem of book losses in academic libraries through theft.[31] The project was delayed by unforeseen difficulties but is now essentially complete with a report in draft form. Data for the study were gathered by questionnaire from over a thousand academic libraries in institutions of fewer than 5,000 students. Statistics and conclusions are presented showing the relationship of book thefts to such library attributes as collection size, circulation volume, frequency of inventory, and presence or absence of security measures. The reader is referred to earlier reports of the Council[32] for other projects on book pilferage.

Standards in Library Work

Critical to any meaningful (and economic) exchange of information among librarians is the acceptance of standards. Since 1962 the Council and the National Science Foundation have jointly supported the American National Standards Institute's Sectional Committee Z-39[33] (Standards in Library Work, Documentation and Related Publishing Practices). Through its 18 sub-committees Z-39 works to formulate needed standards which are then forwarded to the

[30] *Books by Mail.* San Antonio Public Library, San Antonio, Texas, 1970. 22 p.

[31] XI: 26.

[32] XII: 19-20; XIII: 25-26.

[33] VI: 34; VII: 39; VIII: 36; IX: 40; X: 58; XI: 41-42; XII: 43; XIII: 40.

parent organization for approval and promulgation. Z-39 also attempts to ensure that libraries are properly represented when and where standards which will affect library processes are formulated. The American National Standards Institute (ANSI) also represents the United States in the International Standards Organization, thus ensuring that American library standards are considered when international standards are set.

During this fiscal year, Z-39 subcommittees worked on standards for, among others: standard serial numbers, machine input records, periodical title abbreviations, transliteration, terminology codes for geographic place names, standard book numbering, and identity codes for libraries and book dealers.

Conference on Cooperative Program for Negro College Libraries

One of the goals which the COSATI (Committee on Scientific and Technical Information) Task Group on Library Programs has set for itself is to encourage Negro college libraries to undertake cooperative ventures with a view to improving services and facilities. With the co-sponsorship of the Institute for Services to Education in Washington, D. C., the COSATI Subcommittee on Negro Research Libraries arranged a conference for the librarians and college presidents, supported by matching grants from the National Endowment for the Humanities and the Council on Library Resources.

A time was chosen when most of the participants were to be in Washington on other business. The conference objectives were to

- identify the problem areas of the concerned libraries,
- describe projects of mutual benefit in priority sequence,
- review relationships which may influence the accomplishment of the projects, and
- make recommendations for action.

The conference has been held and a report is in preparation.

Foreign Manuscript Copying

The Center for the Coordination of Foreign Manuscript Copying is located in the Manuscript Division of the Library of Congress. The Center was established in 1965 [34] to

- obtain information on past, present, and prospective projects relating to the copying of foreign manuscript material;

[34] IX: 24; X: 69; XI: 38-39; XII: 32; XIII: 38-39.

35

- publish information on copying activities past and present;
- attempt to coordinate foreign copying and obtain cooperation among those engaged in it;
- gather and make available information on relevant material in foreign repositories; and
- develop a systematic national plan for copying abroad.

Council support for the Center was predicated on the assumption that funds would eventually be appropriated to continue the Center as a regular activity of the Library of Congress. Unfortunately, this has not occurred and the activity must now be scaled down. The Center as such will cease to exist later this year. The publication of *News from the Center*, begun in the Spring of 1967, will cease with No. 7, Spring 1970.

Foreign manuscript copying coordination activities will be continued at a lower level by the regular staff of the Manuscript Division. Staff members will continue to supervise the Library's participation in the Austrian state archives microfilming project, the Louisiana colonial records project, and other cooperative agreements that may be developed in the future.

A Look at the Republishing Industry

Libraries, librarians, and others deal with the reprint industry very frequently indeed. The industry is growing by leaps and bounds, trying valiantly to keep up with the technology that allows it to do so. Everyone knows something about the republishing business, but not much, and it is the rare person who has any real overall grasp of the size and scope of the industry and its works. Who are the reprinters? Where are such firms located? What amounts of which kinds of titles are selected for reprinting? What is the average size of a reprint press run? How does copyright affect the industry? What are some of the industry's procedures, problems, and future prospects?

It was in the interest of finding answers to these and related questions that the Council made a grant to Mrs. Carol A. Nemeyer, a doctoral candidate in the School of Library Service at Columbia University. She hopes to publish a book out of the study, tentatively titled: "The Republishing Industry: Identification, Description and Analysis of Scholarly Book and Journal Reprint Publishing."

36

Inventory of Maps The Council has made a small grant to permit the Newberry Library in Chicago to look into the feasibility of compiling an inventory of the maps, many of historical interest, held in Midwestern collections. Principal investigator is David Woodward, Fellow in the History of Cartography. Mr. Woodward in this initial phase will survey map holdings in the Midwest, ascertain the willingness of the custodians of these holdings to cooperate, and look into the possibility of using the MARC format for the map collections.

Festschriften in the Field of Librarianship The "Festschrift" or honor volume is here to stay. Since the nineteenth century the number of publications in this genre has been growing steadily. The range of subjects covered includes every conceivable learned discipline, among which is, quite understandably, the work of librarians and libraries. But no comprehensive and definitive bibliographic key to this special area was available until recently. With support from the Council,[35] J. Periam Danton, Professor of Librarianship, University of California at Berkeley, has published his alphabetical subject-author index[36] to 283 Festschriften honoring libraries, librarians, and library associations. In all, 3,300 separate articles from these publications are cited in thorough and painstaking detail. Also included are the history and scope of Festschriften, and a guide to the user written in English, French, German, and Italian.

Book Selection Lists for Law School Libraries In 1967 the Council made the last of a series of grants to the Association of American Law Schools for the compilation and publication of basic selection lists for law school libraries.[37] The project began in 1963 and has had Council support almost from its initial stages. The basic work was completed during this fiscal year, and its product, *Law Books Recommended for Libraries*,[38] already approaches 50 lists, the last of which will be in print soon. These are arranged

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[35] XI: 18.

[36] J. Periam Danton. *Index to Festschriften in Librarianship*. R. R. Bowker Co., New York, 1970. 461 p.

[37] VIII: 18-19; X: 17-18; XII: 18.

[38] *Law Books Recommended for Libraries*. Association of American Law Schools. Fred B. Rothman & Co., South Hackensack, N.J. Published periodically since 1967. Variously paged.

in binders, with Anglo-American subjects appearing first in alphabetical order, followed by foreign laws lists, and finally by a comprehensive index covering 45 subject areas. In each list the recommended titles, many annotated, are arranged alphabetically under the appropriate topical headings. Supplements will be produced as required by the Association of American Law Schools.

A Faculty-Student Team for History

The National Endowment for the Humanities and the Council have agreed jointly to support a novel undertaking proposed by a librarian and a professor of history at the Stony Brook campus of New York State University. The goal of the project is a faculty-student team approach to the training of young historians and history undergraduates in the development of units of source materials useful in the teaching of history. In addition to the principal investigators, the teams will be composed of two library staff members, two graduate students, and two undergraduates. Teams will hold weekly meetings, draw upon the resources of all local archives and libraries, prepare teaching units for classroom use, write accompanying material and, finally, write a report on their experiment.

VI. INTERNATIONAL LIBRARY AFFAIRS

The Influence of MARC

It has been apparent for some time that the need for international library cooperation is growing rapidly. The Council has been instrumental in developing greater international cooperation and standardization by financial support of and personal representation at significant international meetings.[39] This kind of support continued during the year, with emphasis on the growing international use of MARC. As the great national libraries of the world move toward automation, it is imperative that they devote

[39] Among the international conferences the Council has helped to support have been several meetings on cataloging principles, a Conference on Education for Librarianship, a Conference on Bibliographic Form and Style, and the First Japan-U.S. Conference on Libraries and Information Science in Higher Education. The Council has been represented by its members and staff at meetings of the International Federation of Library Associations, the International Association of Agricultural Librarians and Documentalists, and UNISIST, among others.

early attention to standards if there is to be meaningful exchange of bibliographic data in machine-readable form among them. The various MARC formats (e.g. for monographs, serials, maps) offer convenient carriers of these data between systems; the sender and the receiver systems need only the capability to convert to or from a MARC format, thus avoiding the requirement for direct compatibility among diverse systems.

International Serials Data System

There is increasing interest in Europe and elsewhere in developing some form of international apparatus for the control of the world universe of serial literature. This year UNISIST, a working group established by UNESCO, and the International Council of Scientific Unions/Abstracting Board have joined together to support a preliminary design study for such a system. A significant part of the future international serials system will be standardized if agreement can be reached on a single system for numbering or otherwise uniquely identifying serial titles. It is obviously to the advantage of American libraries and others who process serials here to have the American Standard Serial Number proposed by Sectional Committee Z-39 of the American National Standards Institute accepted as the international standard. To that end it was tendered to the International Standards Organization as the American entry.

International Cataloging

The 13th Annual Report[40] told of a grant to the Committee on Uniform Cataloguing Rules of the International Federation of Library Associations for a projected working meeting of specialists. Thirty-eight participants from 32 countries met in Copenhagen in August 1969 to review cataloging developments since the 1961 International Conference on Cataloguing Principles, and to examine the prospects for further advances through standardization and mechanization. In this connection special attention was given to consideration of national bibliographies, the Shared Cataloguing Program, and the production of cataloging data in machine-readable form. The small sum remaining in the grant is enabling the secretariat which planned the successful meeting to implement some of its recommendations.

[40] XIII: 23.

Publication of American Book Lists in Britain

The National Central Library in London has since 1930 acquired books of American imprint for loan in the United Kingdom. Surveys as well as the volume of the loans themselves have indicated that a substantial demand for American imprints exists. For this reason the British Government has initiated and provided substantial funds for the purchase of American books and periodicals, especially in the social sciences and the humanities. The publication of the lists of these purchases was funded from the acquisitions budget itself. In order to meet the growing demand for the lists and other notices of the availability of the American imprints without cutting further into the acquisitions budget, the Library asked for and received a grant to support publication in larger numbers and on a more frequent basis.

The Central Library plans also to look into the possibility of using MARC tapes as a basis for the lists, and this might well be the first step toward production of a union catalog of American materials in British libraries.

VII. THE PROFESSION

Economics of Librarianship

With the changing nature of library operations, the greatly expanded demand for library services, and the increased emphasis on the new technology, it is more important than ever that young people of exceptional ability be encouraged to enter the profession. Fewer of the able young than could be wished choose librarianship over, for example, college and university teaching. It is fair to say that one reason for this is the fact that librarianship is, on the whole, a relatively poorly paid profession. As a first step in dealing with the overall problem the Council in 1968[41] engaged Donald F. Cameron, formerly director of the Rutgers library, as a part-time consultant for a preliminary study of the possibility of developing a regular data-gathering and evaluating system for updating the salaries of academic librarians. Dr. Cameron has had the collaboration of Dr. Peggy Heim, recently staff economist with the American Association of University Professors.

Their study, soon to be published, presents a picture of the university library profession as a pyramid wherein large numbers of people either stagnate at the middle levels of compensation or

[41] XIII: 28.

are squeezed out of the profession by the scarcity of better paying positions at the top. The findings suggest that, in the inevitable comparison with faculty salaries and especially in the opportunity to advance to top salaries, university librarians fare poorly. This is not because of significant differences in compensation at the various levels of the two professions. The differences occur in the number of individuals to be found at the various career stages represented by salary. There is, after all, only one director to a library; there is no such limit to the number of full professors at a university. This suggests that the profession could profitably examine the organizational structure of academic libraries with a view to bettering the opportunities for advancement. Too many able librarians face a kind of Hobson's Choice: aspire no higher than the center of the salary hierarchy, or leave the profession.

The sample used in the study and the statistics generated from it represent only 1969-70 and provide no more than a snapshot of a rapidly changing situation. The Council is sponsoring a second year's survey which will build on the experience already gained to produce additional information.

CLR Fellowship Program

The Council announced its program of fellowships for promising mid-career librarians in 1968.[42] The names of the first fifteen fellows selected were announced in the spring of 1969[43] by Dr. Louis B. Wright, Vice-Chairman of the Council's Board of Directors and Director Emeritus of the Folger Shakespeare Library, who is chairman of the Fellowship Committee. The reception of this program by librarians has been enthusiastic, and the institutions to which those selected for fellowships belong have cooperated fully. The reports which are beginning to arrive are most gratifying, and some have been accepted for publication by various professional journals. Readers of the Council's annual reports will remember that the purpose of the fellowships is to allow selected librarians an opportunity to take time away from their regular duties to follow a particular interest or project that will be useful to themselves, to their institutions, and to the profession as a whole.

Fellowships announced in the spring of 1970 went to:

Kenneth S. Allen, Associate Director of Libraries, University of Washington. To explore the current budget development techniques

[42] XII: 35.

[43] XIII: 41-42.

being employed in large academic libraries, with special emphasis on the formula approach.

Donald C. Anthony, Associate Director of Libraries, Columbia University. To study the extent to which audio-visual materials are used at selected academic libraries and to evaluate their effectiveness as aids to instruction.

Richard W. Boss, Associate Director of Libraries, University of Utah. A review of dial access learning systems and other audio-visual equipment in academic libraries, and recommendations for the integration of nonprint materials into the total program.

Maynard J. Brichford, University Archivist, University of Illinois at Urbana. A study of European and American archival education and employment and the changing demands placed on archival training programs.

John C. Broderick, Assistant Chief, Manuscript Division, Library of Congress. A study of the formation and present development of selected major special collections of Americana and the sophistication of reference and bibliographical service available upon their contents.

Richard De Gennaro, Senior Associate University Librarian, Harvard University. To attend the Advanced Management Program at the Harvard Business School in order to acquire an understanding of modern management concepts.

Richard H. Dillon, Sutro Librarian, San Francisco, California. An investigation of the methods of handling nonbook materials in order to suggest improvements in the techniques of maintenance, and interpretation of the material in relation to book resources.

Robin N. Downes, Associate Head, Technical Services Department, University of Michigan Library. To develop through study and direct contacts a more comprehensive and detailed understanding of the application of automated processes to the bibliographic systems of a university library, with particular emphasis on innovative approaches to the automation of large-scale, high-volume serial systems.

Gordon E. Fretwell, Head, Public Services Department, Central Library, University of California, San Diego. An investigation of the programs of support that a group of typical U. S. colleges and universities provide graduate students in the humanities and social sciences through libraries and library-related services.

Johnnie E. Givens, Librarian, Austin Peay State University, Clarksville, Tennessee. To study a representative group of institutions within the small and medium-size range to determine what has been done or is being planned to integrate the library service program with the instructional program of the institution.

Joan I. Gotwals, Head, Reference & Bibliographic Service Division, University of Pennsylvania Library. A study of the development of unions in university libraries and the effects on library administration.

David M. Henington, Director, Houston Public Library. A study of the innovative building developments in large public libraries with special concern in the areas of automation, subject departmentalization, and the effective orientation of the public in use of the library.

David R. Hoffman, Deputy State Librarian, Montana State Library. To examine in depth the services to state government offices and state legislators offered by a selected group of state library agencies, and from this examination to plan for the further development of the Montana State Library's service to state government.

Edward G. Holley, Director of Libraries, University of Houston. A study of libraries in urban universities: emerging patterns of organization and administration.

Henry C. Koch, Assistant Director of Libraries, Michigan State University. To study the book collections of separate undergraduate libraries in large university library systems in order to determine the reasons for the variations in collections among undergraduate libraries, and determine the relationship of the undergraduate collection to the research collection.

Jay K. Lucker, Associate University Librarian, Princeton University. A survey of major European libraries whose resources are important in the history of science, in order to prepare a guide to these collections for American scholars who plan to work abroad.

John McGowan, Associate University Librarian, Northwestern University. To renew skills in the field of operations research in terms of applying these techniques to management and decision-making processes in libraries.

Elvin E. Strowd, Head, Circulation Department, Duke University Library. To determine what facilities and services are available to university communities through their library systems, resulting in an evaluation of purpose, function, and effectiveness.

Allen B. Veaner, Assistant Director of University Libraries for Automation, Stanford University. To study the political and fiscal factors which have deterred the ready application of computers to libraries.

Theodore Welch, Assistant University Librarian for Public Service, Northwestern University. Research for a publication on librarianship in Japan.

FINANCIAL STATEMENTS

Opinion of Independent Accountants

August 19, 1970

To the Board of Directors of
Council on Library Resources, Inc.

In our opinion, the accompanying financial statements (Exhibits I-III) present fairly the assets, liabilities and fund balance of the Council on Library Resources, Inc. at June 30, 1970, its expenditures and income and sources and applications of cash for the year, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. Our examination of these statements was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

PRICE WATERHOUSE & CO.

EXHIBIT I

COUNCIL ON LIBRARY RESOURCES, INC.

STATEMENT OF ASSETS, LIABILITIES AND FUND BALANCE

ASSETS

	June 30 1970	June 30 1969
Cash (Exhibit III)	$ 109,747	$ 100,856
Certificates of deposit, at cost plus accrued interest	958,102	1,473,022
Grant receivable from The Ford Foundation (Note 1)	2,820,374	4,000,000
Prepaid expenses and deposits	6,338	6,136
	$3,894,561	$5,580,014

LIABILITIES AND FUND BALANCE

Grants and contracts payable	$1,909,465	$1,594,737
Fellowships payable	78,966	53,051
Accounts payable, accrued salaries and withheld taxes	7,398	6,361
	1,995,829	1,654,149
Fund balance at beginning of year	3,925,865	1,531,905
Add — Grant from The Ford Foundation (Note 1)		5,000,000
	3,925,865	6,531,905
Deduct — Expenditures less income for the year (Exhibit II)	2,027,133	2,606,040
Fund balance at year end (Note 2)	1,898,732	3,925,865
	$3,894,561	$5,580,014

EXHIBIT II

COUNCIL ON LIBRARY RESOURCES, INC.

STATEMENT OF EXPENDITURES AND INCOME

EXPENDITURES	For the Year Ended June 30 1970	1969
Program expense		
Grants and contracts	$1,670,980	$2,642,179
Less: Adjustments resulting from excess allocations in grants awarded	(106,316)	(431,634)
	1,564,664	2,210,545
Fellowships	51,395	64,950
Compensation and employee benefits	180,816	146,434
Consultants' fees and expenses	43,805	17,578
Travel	15,911	14,579
Other	476	263
	1,857,067	2,454,349
Administrative expense		
Compensation and employee benefits	142,752	133,257
Rent	20,683	18,350
Professional services	18,661	36,749
Travel and meetings	13,049	14,239
Furniture and equipment	21,435	4,039
Printing and duplication	7,334	6,411
Office and other expense	20,865	18,294
	244,779	231,339
	2,101,846	2,685,688
INCOME		
Income from investments	74,713	79,648
Expenditures less income	$2,027,133	$2,606,040

EXHIBIT III

COUNCIL ON LIBRARY RESOURCES, INC.

STATEMENT OF SOURCE AND APPLICATION OF CASH

	For the Year Ended June 30 1970	1969
Cash provided by		
Receipts from Ford Foundation	$1,179,626	$2,000,000
Proceeds from disposition of investment securities, net of purchases	589,633	(340,900)
Grant refunds	27,760	63,239
	1,797,019	1,722,339
Cash applied to		
Program expense	1,543,472	1,498,602
Administrative expense	244,556	242,113
Employee travel advances	100	(250)
	1,788,128	1,740,465
Cash increase during the year	8,891	(18,126)
Cash, beginning of year	100,856	118,982
Cash, end of year	$ 109,747	$ 100,856

NOTES

1) Effective July 1, 1968, The Ford Foundation approved a $5,000,000 grant to the Council for the continuation and expansion of the Council's program. The grant agreement specifies that the grant will be paid in quarterly installments over a three year period beginning July 1, 1968 in response to the Council's forecast of cash requirements.

2) At June 30, 1970, $1,315,590 of the Fund balance has been appropriated by the Board of Directors for specific grants and contracts and $68,180 had been allocated to the President for future grants and contracts of up to $25,000 or additions to existing grants and contracts of up to $5,000 each to be made at his discretion.

EXHIBIT IV

STATEMENT OF GRANTS, CONTRACTS, AND COUNCIL-ADMINISTERED PROJECTS

Year Ended June 30, 1970

	Payable June 30, 1969	Grant Contract or Project	Adjustments	Payments (Refunds)	Payable June 30, 1970
American Association for State and Local History					
Preparation of a manual on collection and servicing of local history materials in libraries		$ 34,604		$ 3,389	$ 31,215
American Association of Law Libraries, Committee on Statistics					
Statistical survey of law library resources in the U. S. and Canada (revised project)	$ 15,000			2,096	12,904
American Council of Learned Societies					
Assistance to ACLS automated bibliographical control program		10,000		10,000	
American Library Association					
Assistance in establishing a quarterly Journal of Information Science & Library Automation	4,391				4,391
Book Catalog for a core collection for college libraries	290,502			25,166	265,336
Expenses of Committee on New Directions for ALA, 1969-70		9,620		2,073	7,547
First Japan-U. S. Conference on Libraries and Information Science in Higher Education*	903		$ 1,537	(634)	
Publication of a book-selection service (CHOICE) at the college library level	31,850		31,850		
Library Technology Program					
Projects of testing and standardization to June 30, 1965			8,037	(8,037)	
Projects of testing and standardization to August 31, 1967	28,726		6,932	(6,932)	28,726
Extension of support, Library Technology Program to August 31, 1968	25,154		25,154		
Extension of support, Library Technology Program to August 31, 1970	136,150			83,370	52,780
Conservation of Library Materials, Phase II	22,500				22,500
Director's Discretionary Fund, April 1, 1969 - August 31, 1970	12,000			6,000	6,000
An evaluation of microform readers for libraries available on the American market	11,820			7,880	3,940
Association of Research Libraries					
University Library Management Study	12,500			12,500	
Preliminary study for a national foreign newspaper microfilming program	8,700		2,366	6,334	

* Council-administered project

	Payable June 30, 1969	Grant Contract or Project	Adjust-ments	Payments (Refunds)	Payable June 30, 1970
W. J. Barrow Research Laboratory, Inc.					
Operation of a laboratory for investigations relative to the preservation of books and other library materials	$ 34,236	$ 199,660	$ 10,202	$ 98,903	$ 124,791
Edward A. Chapman and Paul L. St. Pierre					
Preparation of a manual on systems analysis and design as related to library operations			166	(166)	
Columbia University					
The P. L. 480 Program in American Libraries	1,883				1,883
Federation of American Societies for Experimental Biology					
Development of criteria for quality control of input in science information systems	12,500			10,000	2,500
Imperial College of Science and Technology (London)					
Research on the conservation of library materials	68,970			18,810	50,160
Information General Corporation					
A research study for time and cost analysis of library operations	10,000			10,000	
International Federation of Library Associations					
An International Meeting on Cataloging	13,769			13,769	
Joint Committee on the Union List of Serials, Inc.					
Assistance to National Serials Data Program	15,000			15,000	
Library of Congress					
Center for the coordination of foreign manuscript copying (continuation)	43,783			29,188	14,595
Conversion of Retrospective Cataloging Records to Machine-Readable Form (RECON) (continuation)		200,959		95,808	105,151
Equipment for Preservation Research Office		95,000		46,450	48,550
Pilot Project for the Conversion of Retrospective Cataloging Records to Machine-Readable Form (RECON)	25,000			25,000	
Purchase of 40 copies of the **MARC Pilot Project Final Report**		140		140	
Massachusetts Institute of Technology					
Project Intrex, October 1, 1968 - June 30, 1970	494,667			424,000	70,667
Project Intrex—Model Engineering Library		150,000		50,250	99,750
Mathematica					
Study of the economics of university library operation, Phase I		25,000		10,000	15,000
R. A. Morgan Company					
Construction and testing of a prototype of a bibliographer's camera	4,486			2,986	1,500

	Payable June 30, 1969	Grant Contract or Project	Adjust-ments	Payments (Refunds)	Payable June 30, 1970
Mt. San Antonio College Foundation					
Development of a teaching machine for instruction in the use of library tools (revised project)	$ 5,000			$ 5,000	
National Academy of Sciences					
Appraisal of library and information system research and experimentation involving computers		$ 50,920		9,000	$ 41,920
National Central Library (London)					
Continued publication and increased distribution of American Acquisition Lists		15,000		3,500	11,500
National Endowment for the Humanities					
Chinese Society Bibliography Project		5,000		5,000	
Conference to formulate plans for aiding Negro College Libraries		2,500		2,500	
Continuation of the College Library Program		200,000			200,000
Development and operational testing of a data management system at the University of Chicago Library; extension of present capability		400,000			400,000
Support of a Faculty-Student development team in history at SUNY, Stony Brook		7,500		7,500	
Carol A. Nemeyer					
The Republishing Industry: identification, description and analysis of scholarly book and journal reprint publishing		2,813		2,358	455
The Newberry Library					
Feasibility study for a catalog of historical maps in Midwestern collections: Phase I		2,350		1,000	1,350
Study of book conservation in London and Florence		1,500		1,500	
New England Board of Higher Education					
Continuation of NELINET (New England Library Information Network) project. Establishment of a computer-based regional library processing center	85,028			85,028	
North Carolina State Board of Higher Education					
Feasibility study of a state research depository library	3,500				3,500
Yasumasa Oda					
Study of automation in library processes		280		280	
Ohio College Library Center					
Development of a computerized regional library system: implementation of a shared cataloging system		14,113		8,513	5,600
San Antonio Public Library					
Books-by-mail public library circulation system	12,500		$ 9,330	3,170	
School of Librarianship and Archives, University College (London)					
Union Catalog of Urdu Mss in the United Kingdom	6,000			6,000	

	Payable June 30, 1969	Grant Contract or Project	Adjust-ments	Payments (Refunds)	Payable June 30, 1970
Support for Guy R. Lyle's study of library duplication of special collections and of the need for a code of practice for reprint publishers; and other library programs*	$ 496		$ 496		
System Development Corporation					
Library Information System Time-Sharing System (LISTS)	59,951		110	$ 59,841	
Tulane University Library					
Conversion of a computer-taped catalog to microfilm, and test of user acceptance		$ 3,280			$ 3,280
University of California					
Preparation and publication of a handbook on data processing for libraries	34,249		1,975	32,274	
University of California, Berkeley					
A bio-bibliographical index to the contributions published in Festschriften in the field of librarianship			3,334	(3,334)	
University of California, San Diego					
2nd Edition of **Sources of Information in the Social Sciences**		4,910			4,910
University of California, Santa Cruz					
Development of a machine-manipulable classification scheme for slides in the sciences			1,795	(1,795)	
Publication of **A Universal Slide Classification System with Automatic Indexing**		3,370			3,370
University of Chicago					
Study of patterns in the use of research library materials			2,288	(2,288)	
University of Illinois, Urbana					
Preparation of a manual of university archival practice with respect to records of academic scientific research			412	(412)	
University of New South Wales					
A study of alphabetical subject indexing			293	(293)	
University of North Carolina (on behalf of American Standards Association Sectional Committee Z39)					
Development of standards in library work and documentation	51,062			10,212	40,850
University of Pennsylvania, Philadelphia					
Proposal for a Middle Atlantic States - University of Pennsylvania Archive of Medieval Manuscripts on film—Stage II	8,500			6,500	2,000
Vanderbilt University on behalf of the Joint University Libraries					
Establishment of a model research and development unit		171,107		12,100	159,007
Various*					
Fund for Foreign Librarians to visit the U. S.		5,000			5,000
Guide to resources of a consortium of seven Middle Atlantic University Libraries	2,200				2,200
Travel grants to attend meetings abroad	1,761	5,747	39	2,832	4,637

* Council-administered project

	Payable June 30, 1969	Grant Contract or Project	Adjust-ments	Payments (Refunds)	Payable June 30, 1970
Wabash College					
To increase the effectiveness of the library in the educational program of Wabash College—College Library Program		$ 50,000			$ 50,000
Gordon Williams					
Travel expenses of Gordon Williams to and in London		607		$ 607	
Fellowship Program*	$ 53,051	51,395		25,480	78,966
TOTALS	$1,647,788	$1,722,375	$106,316	$1,275,416	$1,988,431

* Council-administered project

ACKNOWLEDGMENTS

The picture of the scholar at his book-wheel, which appears on the front cover, is adapted from an engraving in Agostino Ramelli's *Le diverse et artifiose machine*, Paris, 1588. The original engraving has been reproduced in the Council's Third and subsequent annual reports.

This Fourteenth Annual Report was designed by the George Lohr Studio. The type face is Caledonia. The paper is "Permalife," a stable and enduring paper produced by the Standard Paper Company, Richmond, Virginia.

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